

CHAPTER 534

UNDERGROUND WATER AND WELLS

GENERAL PROVISIONS

534.010	Definitions.....	5
534.015	"Abandon" defined.....	5
534.020	"Annular space" defined.....	5
534.030	"Aquifer" defined.....	5
534.040	"Artesian well" defined.....	5
534.041	"Bentonite chips" defined.....	5
534.042	"Bentonite grout" defined.....	5
534.043	"Blast hole" defined.....	6
534.045	"Board" defined.....	6
534.047	"Borehole" defined.....	6
534.048	"Bridge" defined.....	6
534.050	"Casing" defined.....	6
534.060	"Cement grout" defined.....	6
534.065	"Cement-bentonite grout" defined.....	6
534.070	"Concrete grout" defined.....	6
534.080	"Conductor casing" defined.....	7
534.094	"Contaminant" defined.....	7
534.095	"Contamination" defined.....	7
534.100	"Division" defined.....	7
534.110	"Domestic use" defined.....	7
534.112	"Drill rig" defined.....	7
534.113	"Drive point well" defined.....	7
534.120	"Exploratory well" defined.....	7
534.140	"Groundwater" defined.....	7
534.144	"Instrumentation borehole" defined.....	7
534.148	"Monitoring well" defined.....	8
534.150	"Neat cement" defined.....	8
534.160	"Nominal size" defined.....	8
534.165	"Observation well" defined.....	8
534.175	"Permit" defined.....	8
534.179	"Piezometer" defined.....	8
534.182	"Pitless adapter" defined.....	8
534.183	"Plug" defined.....	8
534.185	"Public land survey" defined.....	8
534.188	"Reconditioning" defined.....	9
534.190	"Seal" defined.....	9
534.192	"Seismic shot hole" defined.....	9
534.194	"Sodium bentonite" defined.....	9
534.195	"Static water level" defined.....	9
534.205	"Vapor extraction well" defined.....	9
534.210	"Waste" defined.....	9
534.220	"Well" defined.....	9
534.235	"Well bore" defined.....	9
534.240	"Well driller" defined.....	9
534.245	"Well drilling" and "drilling a well" defined.....	10

LICENSE TO DRILL WELL

534.280	Application for license.....	10
534.282	Qualifications of applicant; denial of application.....	10
534.286	Oral examination of applicants.....	10
534.288	Board not required to conduct oral examination of certain applicants.....	11
534.290	Revocation or denial of license.....	11
534.292	Notice to renew license; notification by well driller of change in mailing address.....	11
534.2923	Renewal of license: Application for renewal.....	11
534.2925	Renewal of license: Processing of and action on application.....	12
534.2927	Continuing education of well drillers.....	12
534.293	Additional requirements for license if prior license has expired or been suspended or revoked.....	14
534.294	Scope of authority under license; issuance of restricted licenses.....	14

534.296	Temporary license: Issuance and reissuance; expiration; termination of employment of temporary licensee.	14
534.298	Temporary license: Period of validity; authorized activities; transferability.	15

DUTIES OF WELL DRILLERS

534.300	Designated basins; replacement wells; waivers.	15
534.310	Nondesignated basins.	15
534.315	Wells for domestic use.	16
534.320	Notice of intent to drill: Submission; contents; correction; forms.	17
534.325	Notice of intent to drill: Lapse; new notice.	18
534.330	Responsibilities of licensed well driller at drilling site.	18
534.340	Log and record of work: Form; contents.	18
534.345	Log and record of work: Completion; execution; submission; correction.	19
534.350	Identification of well rig.	19
534.355	Reporting of improper construction or plugging of well.	19

DRILLING, CONSTRUCTION AND PLUGGING OF WELLS AND BOREHOLES

534.358	Construction of well: Compliance with chapter 445A of NAC in certain circumstances.	20
534.360	Construction of well: Casing.	20
534.362	Construction of well: Thermoplastic casing.	21
534.370	Construction of well: Prevention of contamination; securing against unauthorized entry; suspension of drilling.	22
534.375	Construction of well: Measures required if contaminant or contaminated water is encountered.	22
534.378	Construction of well: Measures required if artesian condition is encountered.	22
534.380	Construction of well: Seals.	22
534.390	Construction of well: Location near river, lake, perennial stream, unlined reservoir or unlined canal; compliance with permit or waiver.	23
534.420	Plugging of well: General requirements.	24
534.422	Plugging of well: Use of exceptional method.	25
534.424	Plugging of well: Responsibility for cost.	25
534.426	Plugging of well: Artesian conditions.	25
534.427	Mandatory plugging of certain wells.	26
534.430	Means to measure level of water in well required.	26
534.432	Mandatory plugging of well as result of noncompliance with requirements for well drilling.	26
534.4351	Monitoring wells: Restrictions on construction; submission of plat map, map of vicinity, and log and record of work.	27
534.4353	Monitoring wells: Responsibilities of owner; permits; affidavit of responsibility for plugging.	27
534.4355	Monitoring wells: Casing; prevention of contamination.	28
534.4357	Monitoring wells: Placement of gravel and seals in annular space.	28
534.4359	Monitoring wells: Measures required if contaminant or contaminated water is encountered.	29
534.4361	Monitoring wells: Surface pad; prevention of unauthorized use; additional protective measures.	29
534.4363	Monitoring wells: Artesian conditions.	29
534.4365	Monitoring wells: Plugging.	29
534.4367	Drive point wells.	30
534.4369	Boreholes: Generally.	30
534.4371	Boreholes: Plugging requirements.	31
534.4373	Boreholes: Responsibility for plugging.	32
534.4375	Boreholes, blast holes and seismic shot holes: Artesian conditions.	32
534.4376	Instrumentation boreholes.	32
534.43763	Electrical cathodic protection conductor deemed specific type of instrumentation borehole.	32
534.43767	Core hole deemed specific type of borehole.	32
534.4377	Treatment of certain holes as boreholes.	32
534.438	Prerequisites to using bentonite grout to seal, grout or plug borehole.	33

WAIVERS

534.440	Waiver to drill exploratory well to determine quality or quantity of water in designated basin.	33
534.441	Waiver to drill monitoring well.	34
534.442	Waiver to use water to explore for minerals.	35

534.444	Waiver to use water to explore for oil, gas or geothermal resources.	35
534.446	Waiver to use water for construction of highway.....	36
534.4465	Waiver to use water to drill for water well.	37
534.448	Waiver to drill well in shallow groundwater system to alleviate certain potential hazards.....	37
534.449	Waiver of requirement to plug well.....	38
534.450	Waiver of requirement of this chapter.	39

ENFORCEMENT

534.500	Assessment of demerit points against license of well driller; suspension and reinstatement of license; removal of demerit points.....	39
---------	--	----

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY
530 CHICAGO HALL
CHICAGO, ILL. 60637
U.S.A.

PROF. DR. H. G. HART
INSTITUT FÜR PHYSIKALISCHES
CHEMIE
D-3550 KASSEL
F.R.G.



GENERAL PROVISIONS

NAC 534.010 Definitions. (NRS 534.020, 534.110) As used in this chapter, unless the context otherwise requires, the words and terms defined in NAC 534.015 to 534.245, inclusive, have the meanings ascribed to them in those sections.

(Supplied in codification; A by St. Engineer, 1-9-90; 12-30-97)

NAC 534.015 "Abandon" defined. (NRS 534.020, 534.110) "Abandon" means to discontinue the use of a well or borehole or to leave the well or borehole in such a state of disrepair that to use it would be impracticable, may result in contamination of groundwater or may otherwise pose a hazard to the health or safety of the general public.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97)

NAC 534.020 "Annular space" defined. (NRS 534.020, 534.110) "Annular space" means the space between two cylindrical objects, one of which surrounds the other, such as the space between the walls of the well bore and the casing.

[St. Engineer, Drilling Wells Reg. § 1.01, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.030 "Aquifer" defined. (NRS 534.020, 534.110) "Aquifer" has the meaning ascribed to it in NRS 534.0105.

[St. Engineer, Drilling Wells Reg. § 1.02, eff. 5-19-81]—(NAC A 1-9-90)

NAC 534.040 "Artesian well" defined. (NRS 534.020, 534.110) "Artesian well" has the meaning ascribed to it in NRS 534.012.

[St. Engineer, Drilling Wells Reg. § 1.03, eff. 5-19-81]—(NAC A 1-9-90)

NAC 534.041 "Bentonite chips" defined. (NRS 534.020, 534.110) "Bentonite chips" means a crushed or crushed and formed raw, native predominantly sodium montmorillonite clay which:

1. Has a size gradation between 3/4 inch and 8 mesh;
 2. Is designed for dry installation that hydrates and swells upon contact with water as a sealant for hole plugging, casing seals or any vertical seal to prevent water movement up or down a borehole; and
 3. May be coated to retard hydration for in-water applications.
- ↪ The term includes, without limitation, chip bentonite, bentonite pellets or bentonite tablets.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.042 "Bentonite grout" defined. (NRS 534.020, 534.110) "Bentonite grout" means a commercially manufactured product consisting of the sodium montmorillonite that, when mixed with water pursuant to the specifications recommended by the manufacturer, is specifically designed by the manufacturer to seal and plug wells and boreholes and:

1. Consists of not more than 84.6 percent water and not less than 15.4 percent sodium bentonite by weight of water, except that additional additives may increase the solids ratio above and beyond the minimum 15.4 percent sodium bentonite;
2. Has an API standard filter press fluid loss of less than 9.0 cubic centimeters;
3. Is easily hydrated when mixed with fresh water in the ratio of 33 gallons for every 50-pound bag of bentonite grout;
4. Has hydraulic conductivity or permeability values of 10^{-7} centimeters per second or less; and
5. Has a fluid weight of not less than 9.2 pounds per gallon.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.043 "Blast hole" defined. (NRS 534.020, 534.110) "Blast hole" means a borehole that is drilled and, as soon as practicable, is loaded with explosives for mining purposes.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.045 "Board" defined. (NRS 534.020, 534.110) "Board" means the statewide Well Drillers' Advisory Board.

(Added to NAC by St. Engineer, eff. 1-9-90)

NAC 534.047 "Borehole" defined. (NRS 534.020, 534.110) "Borehole" means a penetration in the ground that is deeper than the longest dimension of its opening at the surface and is made to obtain geologic, geophysical or geotechnical information relating to engineering or for any purpose other than for use as a well.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.048 "Bridge" defined. (NRS 534.020, 534.110) "Bridge" means an obstruction in the well bore or annular space of a borehole or well caused when the walls of the well bore collapse or when materials are jammed or wedged into the well bore or annular space.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.050 "Casing" defined. (NRS 534.020, 534.110) "Casing" means the conduit required to prevent waste and contamination of the groundwater and to hold the formation open during the construction or use of the well.

[St. Engineer, Drilling Wells Reg. § 1.04, eff. 5-19-81]—(NAC A 1-9-90)

NAC 534.060 "Cement grout" defined. (NRS 534.020, 534.110) "Cement grout" means a mixture consisting of equal parts by volume of portland cement and sand, consisting of a grain size of not more than 2 millimeters, with not more than 6 gallons of water for each 94-pound bag (1 cubic foot) of cement. For example, one cubic yard of cement grout contains 12 bags of cement, 72 gallons of water and not more than 13 cubic feet of sand.

[St. Engineer, Drilling Wells Reg. § 1.14, eff. 5-19-81]—(NAC A 1-9-90; R039-12, 6-29-2012)

NAC 534.065 "Cement-bentonite grout" defined. (NRS 534.020, 534.110) "Cement-bentonite grout" means a mixture of sodium bentonite and portland cement that, when mixed with water, is specifically designed to seal and plug instrumentation boreholes and:

1. Consists of a range of water to cement to bentonite ratios by weight of between 2.5 to 1 to 0.3 and 4 to 1 to 1. For example, the ratio by weight of 2.5 to 1 to 0.3 is obtained by mixing 30 gallons of water per 94-pound bag of portland cement with 25 pounds of bentonite and the ratio by weight of 4 to 1 to 1 is obtained by mixing 45 gallons of water per 94-pound bag of portland cement with 94 pounds of bentonite;

2. Has hydraulic conductivity or permeability values of 10^{-7} centimeters per second or less;

3. Has a fluid weight of not less than 10 pounds per gallon; and

4. Has a 28-day compressive strength of at least 100 pounds per square inch.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.070 "Concrete grout" defined. (NRS 534.020, 534.110) "Concrete grout" means a mixture of portland cement, sand, 1/4-inch minus aggregate and water which contains at least five bags of cement per cubic yard of concrete and not more than 7 gallons of clean water per bag of cement (1 cubic foot or 94 pounds).

[St. Engineer, Drilling Wells Reg. § 1.13, eff. 5-19-81]—(NAC A 1-9-90)

NAC 534.080 "Conductor casing" defined. (NRS 534.020, 534.110) "Conductor casing" means the temporary or permanent casing used in the upper portion of the well bore to prevent collapse of the formation during the construction of the well or to conduct the gravel pack to the perforated or screened areas in the casing.

[St. Engineer, Drilling Wells Reg. § 1.05, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.094 "Contaminant" defined. (NRS 534.020, 534.110) "Contaminant" means any chemical, mineral, live organism, organic material, radioactive material or heated or cooled water that may adversely affect the quality of groundwater.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.095 "Contamination" defined. (NRS 534.020, 534.110) "Contamination" means the impairment of water quality by the introduction of contaminants into the groundwater.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97)

NAC 534.100 "Division" defined. (NRS 534.020, 534.110) "Division" means the Division of Water Resources of the State Department of Conservation and Natural Resources.

[St. Engineer, Drilling Wells Reg. § 1.07, eff. 5-19-81]

NAC 534.110 "Domestic use" defined. (NRS 534.020, 534.110) "Domestic use" has the meaning ascribed to it NRS 534.013.

[St. Engineer, Drilling Wells Reg. § 1.08, eff. 5-19-81]—(NAC A 1-9-90)

NAC 534.112 "Drill rig" defined. (NRS 534.020, 534.110) "Drill rig" means any power-driven percussion, rotary, boring, coring, digging, jetting or augering machine used in the construction of a well or borehole.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.113 "Drive point well" defined. (NRS 534.020, 534.110) "Drive point well" means a temporary monitoring well constructed by driving a drive point attached to the end of a section of pipe into the ground for the purpose of obtaining geotechnical or environmental information. The term is synonymous with a push point well.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97)

NAC 534.120 "Exploratory well" defined. (NRS 534.020, 534.110) "Exploratory well" means a well constructed pursuant to paragraph (a) of subsection 2 of NRS 534.050 to determine the availability of water or whether an aquifer is capable of transmitting water to a well.

[St. Engineer, Drilling Wells Reg. § 1.09, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.140 "Groundwater" defined. (NRS 534.020, 534.110) "Groundwater" means water below the surface of the land that is in a zone of saturation.

[St. Engineer, Drilling Wells Reg. § 1.11, eff. 5-19-81]—(NAC A 12-30-97)

NAC 534.144 "Instrumentation borehole" defined. (NRS 534.020, 534.110) "Instrumentation borehole" means a borehole constructed by intentionally placing or leaving any monitoring instrumentation in the hole as the hole is plugged and sealed at the time of construction.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.148 "Monitoring well" defined. (NRS 534.020, 534.110) "Monitoring well" means any well that is constructed to evaluate, observe or determine the quality, quantity, temperature, pressure or other characteristic of groundwater or an aquifer. The term includes an observation well, piezometer, drive point well or vapor extraction well. The term does not include an instrumentation borehole that is plugged and sealed and is not open to the atmosphere upon completion.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.150 "Neat cement" defined. (NRS 534.020, 534.110) "Neat cement" means a mixture of:

1. Clean water and cement in a ratio of not more than 5.2 gallons of water per bag of portland cement (1 cubic foot or 94 pounds); or
2. Clean water, cement and sodium bentonite in a ratio of not more than 7.8 gallons of water per 3.76 pounds of sodium bentonite by dry weight and one bag of portland cement (1 cubic foot or 94 pounds).

[St. Engineer, Drilling Wells Reg. § 1.12, eff. 5-19-81]—(NAC A 12-30-97)

NAC 534.160 "Nominal size" defined. (NRS 534.020, 534.110) "Nominal size" means the manufactured commercial designation of the diameter of a casing. An example would be casing with an outside diameter of 12 3/4 inches which may be nominally 12-inch casing by manufactured commercial designation.

[St. Engineer, Drilling Wells Reg. § 1.15, eff. 5-19-81]

NAC 534.165 "Observation well" defined. (NRS 534.020, 534.110) "Observation well" means a borehole in which a temporary casing has been set and which is used to observe, test and measure the elevation of the water table, the pressure variations within an aquifer and the movement of contaminants inside or outside a zone of saturation.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.175 "Permit" defined. (NRS 534.020, 534.110) "Permit" means the written permission from the State Engineer to appropriate public waters for a beneficial use from a surface or underground source, at a specific point of diversion, under limited circumstances.

(Added to NAC by St. Engineer, eff. 1-9-90)

NAC 534.179 "Piezometer" defined. (NRS 534.020, 534.110) "Piezometer" means a well that is constructed to measure water pressure or soil moisture tensions at one or more discrete intervals.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.182 "Pitless adapter" defined. (NRS 534.020, 534.110) "Pitless adapter" means a commercially manufactured device designed for attachment to openings through the casing of a water well that permits water service pipes to pass through the wall or an extension of a casing and prevents the entry of contaminants into the well or water supply.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97)

NAC 534.183 "Plug" defined. (NRS 534.020, 534.110) "Plug" means the procedure in which a well or borehole is sealed after it is abandoned.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97)

NAC 534.185 "Public land survey" defined. (NRS 534.020, 534.110) "Public land survey" means the description of the location of land using the survey system of the United States Government and includes the 40-acre subdivision within a quarter-quarter section, quarter section, section, township and range.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006)

NAC 534.188 “Reconditioning” defined. (NRS 534.020, 534.110) “Reconditioning” means the deepening, reaming, casing, recasing, perforating, reperforating, installing of liner pipe, packers and seals or any other significant change in the design or construction of a water well.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97)

NAC 534.190 “Seal” defined. (NRS 534.020, 534.110) “Seal” means the watertight seal established in a borehole or the annular space between the well casings or a well casing and the well bore to prevent the inflow or vertical movement of surface water or shallow groundwater, or to prevent the outflow or vertical movement of water under artesian pressures. The term includes a sanitary seal.

[St. Engineer, Drilling Wells Reg. § 1.19, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.192 “Seismic shot hole” defined. (NRS 534.020, 534.110) “Seismic shot hole” means a borehole in which an explosion is detonated to assist studies of the geology of the earth.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.194 “Sodium bentonite” defined. (NRS 534.020, 534.110) “Sodium bentonite” means a colloidal clay that:

1. Consists primarily of the weathered volcanic clay mineral montmorillonite where sodium is the predominant, exchangeable cation;
2. Has the ability to swell; and
3. Is easily hydrated when mixed with fresh water to form bentonite drilling fluids or bentonite grout.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.195 “Static water level” defined. (NRS 534.020, 534.110) “Static water level” means the stabilized level or elevation of the surface of the water in a well or borehole that is not being pumped and is not affected by the pumping of other wells or boreholes.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97)

NAC 534.205 “Vapor extraction well” defined. (NRS 534.020, 534.110) “Vapor extraction well” means any well constructed to remove vapors that may contaminate the groundwater.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.210 “Waste” defined. (NRS 534.020, 534.110) “Waste” has the meaning ascribed to it in NRS 534.0165.

[St. Engineer, Drilling Wells Reg. § 1.21, eff. 5-19-81]—(NAC A 1-9-90)

NAC 534.220 “Well” defined. (NRS 534.020, 534.110) “Well” means a penetration in the ground made for the purpose of measuring, testing, sampling or producing groundwater. The term includes a water well, monitoring well or exploratory well.

[St. Engineer, Drilling Wells Reg. § 1.22, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R039-12, 6-29-2012)

NAC 534.235 “Well bore” defined. (NRS 534.020, 534.110) “Well bore” means a cylindrical hole made in the construction or drilling of a well.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.240 “Well driller” defined. (NRS 534.020, 534.110) “Well driller” has the meaning ascribed to it in NRS 534.017.

[St. Engineer, Drilling Wells Reg. § 1.24, eff. 5-19-81]—(NAC A 1-9-90)

NAC 534.245 "Well drilling" and "drilling a well" defined. (NRS 534.020, 534.110)
"Well drilling" and "drilling a well" have the meaning ascribed to them in NRS 534.0175.
(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006)

LICENSE TO DRILL WELL

NAC 534.280 Application for license. (NRS 534.020, 534.110, 534.140) An application for a well-drilling license must be submitted to the Division. The application:

1. Must be completed and signed by the applicant on a form provided by the Division;
2. Must be accompanied by the fee prescribed in NRS 534.140; and
3. Is valid, for each section of the examination that is required pursuant to NAC 534.282:
 - (a) For the first three dates on which that section of the examination is given which immediately follow the date on which the application is processed by the Division; or
 - (b) For the first three dates on which a section of the examination is offered following the successful completion of the previous section of the examination.

[St. Engineer, Drilling Wells Reg. § 2.01, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.282 Qualifications of applicant; denial of application. (NRS 534.020, 534.110, 534.140)

1. An applicant for a well-drilling license must:
 - (a) Be at least 18 years of age;
 - (b) Be a citizen of the United States, or be lawfully entitled to remain and work in the United States;
 - (c) Submit an application and the fee pursuant to NAC 534.280;
 - (d) Demonstrate a good working knowledge of:
 - (1) Standard drilling practice;
 - (2) The regulations of the State Engineer and applicable laws relating to well drilling; and
 - (3) The method by which land is described by public land survey;
 - (e) Have at least 2 years of experience as a well driller determined to be appropriate by the State Engineer for the license for which the applicant applies;
 - (f) Have at least four professional references determined to be satisfactory and appropriate by the State Engineer for the license for which the applicant applies; and
 - (g) Pass an examination, consisting of the following three sections:
 - (1) A written examination on which the applicant must obtain a passing score of at least 70 percent;
 - (2) A section which requires the applicant to use a standard 7.5 minute topographic map from the United States Geological Survey to provide the public land survey description of the location of a well; and
 - (3) An oral examination conducted by the Board.
 2. The State Engineer may deny an applicant a license if the applicant:
 - (a) Fails to notify the Division that he or she cannot appear for the examination as instructed by a notice to appear before the State Engineer or the Board; or
 - (b) Fails to pass all three sections of the examination described in paragraph (g) of subsection 1 within the period for which the application is valid pursuant to NAC 534.280.
- (Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.286 Oral examination of applicants. (NRS 534.020, 534.110) Except as otherwise provided in NAC 534.288, the Board shall conduct the oral examination section of the examination for each applicant for a well-drilling license. The oral examination section of the examination must be conducted to determine the sufficiency of the applicant's:

1. Knowledge of the provisions of this chapter and chapter 534 of NRS, including, without limitation, knowledge of the minimum standards established in this chapter for the construction and plugging of wells;
2. Qualifications and experience;
3. Proficiency in the operating procedures and construction methods associated with the various types of drilling rigs used for well drilling; and
4. Ability to resolve problems that may arise during the construction or plugging of a well.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006)

NAC 534.288 Board not required to conduct oral examination of certain applicants. (NRS 534.020, 534.110) The Board is not required to conduct the oral examination section of the examination for an applicant for a well-drilling license who:

1. Receives a score of less than 70 percent on the written examination section of the examination; or
2. Is unable to demonstrate his or her ability to locate a well by public land survey on a topographic map.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006)

NAC 534.290 Revocation or denial of license. (NRS 534.020, 534.110, 534.150, 534.160)

1. The State Engineer may revoke or refuse to reissue a well-drilling license if the State Engineer determines, after an investigation and a disciplinary hearing, that the well driller has:

- (a) Been found to be incompetent as a well driller by the State Engineer or the Board;
- (b) Supplied false information to an owner of a well or a holder of a permit or his or her agent; or
- (c) Failed to report information concerning improper construction or improper plugging of a well pursuant to NAC 534.355.

2. The State Engineer will avail himself or herself of the services of the Board pursuant to NRS 534.150 if the State Engineer determines that to do so is appropriate under the circumstances.

[St. Engineer, Drilling Wells Reg. §§ 8.01 & 8.02, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006)

NAC 534.292 Notice to renew license; notification by well driller of change in mailing address. (NRS 534.020, 534.110, 534.140)

1. The Division will send by mail to each licensed well driller a notice to renew his or her license approximately 30 days before the expiration of the license. Failure to receive the notice does not relieve a well driller of the well driller's obligation to file the appropriate forms and pay the fee for renewal in a timely manner.

2. A well driller shall notify the Division of any change in his or her mailing address within 30 days after the change.

(Added to NAC by St. Engineer, eff. 1-9-90; A by R039-12, 6-29-2012)

NAC 534.2923 Renewal of license: Application for renewal. (NRS 534.020, 534.110, 534.140)

1. A well driller may renew his or her well-drilling license by submitting a renewal application to the Division. The renewal application must:

- (a) Be completed and signed by the well driller on a form provided by the Division;
- (b) Be accompanied by the renewal fee prescribed in NRS 534.140; and
- (c) Except as otherwise provided in subsections 5 and 6 of NAC 534.2927, include documentation satisfactory to the Division that the applicant has completed eight credit units of continuing education within the previous year beginning July 1 and ending June 30. At least once

within two consecutive renewal periods, the units of continuing education completed by an applicant must include the completion of a course in the statutes and regulations governing well drilling in this State.

2. If the State Engineer has notified a well driller during the previous year that the well driller has violated a provision of this chapter or chapter 534 of NRS related to welding involving work that does not comply with the construction standards for wells, the well driller must obtain a certificate as a certified welder from the American Welding Society or another similar organization approved by the Division and include the certificate with the well driller's application for renewal of his or her license.

(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006; A by R009-06, 6-1-2006, eff. 7-1-2008; R039-12, 6-29-2012)

NAC 534.2925 Renewal of license: Processing of and action on application. (NRS 534.020, 534.110, 534.140, 534.160)

1. The Division shall process each application submitted for renewal of a well-drilling license pursuant to NAC 534.2923 in the order in which the applications are received by the Division. A well driller must submit his or her application for renewal to the Division so that the Division receives the application not later than June 15 to ensure that the license will remain in force and continue without interruption. If the State Engineer determines that an application is complete and the applicant is qualified, the Division shall renew the license for the period ending on June 30 of the year after approval of the renewal.

2. The Division shall not renew a license if the State Engineer determines, upon investigation and after a hearing held upon at least 15 days' notice sent by registered or certified mail to the licensed well driller, that the well driller:

(a) Has not submitted all required notices of intent to the Division as required by NAC 534.320;

(b) Has not furnished a copy of the log and record of work for every well drilled to the State Engineer as required by NRS 534.170;

(c) Has not complied with all orders requiring the repair or plugging of improperly constructed wells;

(d) Is not otherwise in compliance with this chapter or chapter 534 of NRS; or

(e) Has accumulated 100 demerit points or more against his or her license.

3. If the State Engineer determines, after consultation with the Board, that a well driller has an unacceptable history of noncompliance with this chapter and chapter 534 of NRS, the Division may deny renewal, refuse renewal for a specified time, or renew the license of the well driller with conditions that the State Engineer considers appropriate. In making this determination, the State Engineer may consider the actions of the well driller within the 5 years immediately preceding the date on which the renewal application is received by the Division with regard to his or her well-drilling license or other permits issued by the State Engineer pursuant to this chapter or chapter 534 of NRS.

(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006)

NAC 534.2927 Continuing education of well drillers. (NRS 534.020, 534.110, 534.140)

1. A credit unit of continuing education is earned for each hour the holder of a well-drilling license attends a workshop, seminar or course or participates in any other type of educational activity related to well drilling or related subjects approved by the Division. Such educational activities may include, without limitation, the completion of college courses or Internet courses, compiling and instructing courses approved by the Division, active participation on the board of a professional organization and authoring appropriate publications.

2. A well driller must maintain documentation verifying that he or she has completed the number of credit units of continuing education required by NAC 534.2923. Documentation of completion of continuing education which is satisfactory to the Division includes, without limitation:

(a) A log, on a form provided by the State Engineer, indicating the type of educational activity claimed, the sponsoring organization, the duration of the course or activity, the name of the instructor and the number of credit units; and

(b) Documents providing evidence of attendance at or participation in an educational activity, including, without limitation, a certificate of completion.

3. A well driller shall maintain the documentation required pursuant to subsection 2 for a period of 3 years after the date of completion of the credit units of continuing education and shall make the documentation available for review by the State Engineer at the request of the Division.

4. Except as otherwise provided in subsection 5 or 6, the Division shall deny the renewal of a license if, at the time of renewal, the well driller is unable to provide documentation of completion of the number of credit units of continuing education required by NAC 534.2923.

5. The Division may exempt a well driller from all or part of the number of credit units of continuing education required by NAC 534.2923 if the well driller:

(a) Served on active duty in the Armed Forces of the United States for 120 consecutive days or more during the licensing period immediately preceding the application for renewal;

(b) Was prevented from earning the number of credit units of continuing education required by NAC 534.2923 because of a physical disability, serious illness or other extenuating circumstances; or

(c) Is within the first renewal period after the well driller has applied or reapplied for his or her license and has passed all three parts of the examination.

6. A well driller who has allowed his or her license to expire or otherwise become of no effect is exempt from the requirements of continuing education set forth in NAC 534.2923 unless the well driller files an application for renewal of the license within 1 year after the license expired or otherwise became of no effect.

7. A well driller who is not a resident of this State is subject to the same requirements of continuing education as a well driller who is a resident of this State.

8. The Division shall request that the Nevada Groundwater Association:

(a) Develop a program for continuing education for review and, if appropriate, approval by the Division;

(b) Implement a program that is developed and approved pursuant to paragraph (a);

(c) Provide recommendations to the Division concerning:

(1) The amount and nature of continuing education that is necessary to maintain and improve the competency of a well driller; and

(2) The number of credit units of continuing education that should be assigned to specific educational activities; and

(d) Encourage other associations for well drillers, related professional organizations and educational institutions to make additional educational activities available for well drillers.

9. If the Nevada Groundwater Association does not submit a program for continuing education to the Division pursuant to subsection 8, or if the program submitted pursuant to subsection 8 is not approved by the Division, the Division may request that the Board or another established professional organization approved by the State Engineer:

(a) Develop a program for continuing education for review and, if appropriate, approval by the Division; and

(b) Implement a program that is developed and approved pursuant to paragraph (a).

10. The Division shall review each educational activity submitted to the Division to satisfy the continuing education requirements set forth in NAC 534.2923 to determine the number of credit units of continuing education, if any, to assign to the educational activity.

11. The Division is not obligated to provide credit units of continuing education for a course that was completed before the Division has approved the course.

(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006; A by R039-12, 6-29-2012)

NAC 534.293 Additional requirements for license if prior license has expired or been suspended or revoked. (NRS 534.020, 534.110, 534.140) A well driller whose license has been expired for more than 1 year or whose license has been suspended or revoked must:

1. File a new application with the fee required by NRS 534.140 to obtain a license;
2. Pass the examination required by NAC 534.282; and
3. Reduce the number of demerit points the well driller has accumulated against his or her license to 74 or less.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.294 Scope of authority under license; issuance of restricted licenses. (NRS 534.020, 534.110)

1. A well-drilling license authorizes the licensee to drill, recondition or plug the following types of wells:

- (a) Water wells;
- (b) Monitoring wells; and
- (c) Geothermal wells.

2. The State Engineer may issue restricted well-drilling licenses that limit a well driller to a class of work or type of drilling rig, or both, for which the Board has determined the driller is qualified. The following restricted well-drilling licenses may be issued:

- (a) A monitoring well-drilling license;
- (b) A geothermal well-drilling license;
- (c) A license to drill wells for projects of the Federal Government; and
- (d) Any other class of well-drilling license determined to be appropriate by the Board and the State Engineer.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97)

NAC 534.296 Temporary license: Issuance and reissuance; expiration; termination of employment of temporary licensee. (NRS 534.020, 534.110, 534.140)

1. Except as otherwise provided in subsection 6, the State Engineer may issue a temporary well-drilling license to an employee of a drilling contractor if the drilling contractor has insufficient personnel to complete existing contracts and a valid application for a well-drilling license for the employee has been submitted to the Division pursuant to NAC 534.280.

2. When the sponsoring well driller submits a request for a temporary license, the sponsoring well driller must:

- (a) Hold a well-drilling license issued by the State Engineer; and
- (b) Sign and submit a letter to the Division containing:
 - (1) A request that the person named in the application be given a temporary license;
 - (2) A statement that the sponsoring well driller will take full responsibility for the drilling performed by the prospective temporary licensee; and
 - (3) A statement that the prospective temporary licensee will comply with all regulations for drilling wells.

3. The State Engineer will evaluate the qualifications of the prospective temporary licensee and, except as otherwise provided in subsection 4, may issue or reissue a temporary license.

4. The State Engineer will not:

- (a) Issue or reissue a temporary license if the applicant has an expired application or has had an application denied by the State Engineer pursuant to subsection 2 of NAC 534.282;
- (b) Reissue a temporary license if the applicant has not obtained a passing score as set forth in NAC 534.282 on the written section of the examination; or
- (c) Reissue a temporary license if, after the oral examination conducted by the Board pursuant to NAC 534.286, the Board determines that the applicant is not qualified to drill a well without the on-site supervision of a well driller licensed in this State.

5. The sponsoring well driller shall inform the Division in writing if the employment of the temporary licensee is terminated before the date of the next available examination. The

sponsoring well driller is responsible for any drilling performed by the temporary licensee until the notice of termination is received by the Division. The notice of termination must explain the reasons for terminating the employment of the temporary licensee. The temporary license expires upon receipt of the notice by the Division.

6. Not more than five temporary licenses may be issued under a well-drilling license.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.298 Temporary license: Period of validity; authorized activities; transferability. (NRS 534.020, 534.110, 534.140) A temporary well-drilling license:

1. Is valid until the next scheduled examination;

2. Authorizes well drilling to be performed only for the contractor who requested the license; and

3. Is not transferable.

(Added to NAC by St. Engineer, eff. 1-9-90; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

DUTIES OF WELL DRILLERS

NAC 534.300 Designated basins; replacement wells; waivers. (NRS 534.020, 534.050, 534.110, 534.140)

1. Except as otherwise provided in NAC 534.315, a well driller shall not drill a water well within a groundwater basin designated by the State Engineer until the well driller determines that a permit to appropriate the groundwater has been issued pursuant to NRS 534.050.

2. Except as otherwise provided in subsections 3 and 5, a water well may be drilled to replace an existing well if a valid permit, waiver or certificate of water right exists for the well to be replaced.

3. If continued use will not be made of the existing well, the existing well must be plugged as required by NAC 534.420 at the time the replacement well is drilled unless the owner of the well first obtains a waiver from the requirement that the well be plugged pursuant to subsection 7 or 8 of NRS 534.060 and NAC 534.449. If continued use will be made of the existing well, a permit must be issued for the replacement well before any drilling is commenced.

4. The replacement well must not be drilled more than 300 feet from the location of the existing point of diversion described in the permit and may not be moved outside of the 40-acre subdivision described in the permit, waiver or certificate. Drilling must not be suspended without completing the replacement well or plugging the original well unless approved by the Division.

5. If water service is available from an entity, including, without limitation, a public utility, a water district or a municipality presently engaged in furnishing water to the inhabitants of an area, a well for temporary use for which a revocable permit was granted pursuant to NRS 534.120 may not be drilled, deepened, reconditioned or replaced unless, pursuant to NAC 534.450, a waiver from the provisions of this section is first obtained from the Division.

6. In basins designated by the State Engineer, a waiver is required for any water well:

(a) That does not comply with the requirements for construction prescribed in this chapter;

(b) The water appropriated from which will be used in constructing a highway or exploring for oil, gas, minerals or geothermal resources; or

(c) That may be used as a monitoring well that is not required by a governmental agency.

[St. Engineer, Drilling Wells Reg. §§ 10.01-10.03, 10.05 & 10.06, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.310 Nondesignated basins. (NRS 534.020, 534.050, 534.110, 534.140)

1. Except as otherwise provided in NAC 534.315:

(a) In basins which have not been designated by the State Engineer, a person who drills a well before receiving a permit to appropriate water does so at the risk that a permit to appropriate water cannot be obtained; and

(b) A person shall not use water from a well until a permit or waiver has been obtained pursuant to NRS 534.050.

2. In basins which have not been designated by the State Engineer, the well driller may proceed to drill and perform tests on a well whether or not the owner of the property has a permit to appropriate water.

3. A replacement well must not be drilled more than 300 feet from the location of the existing point of diversion described in the permit and may not be moved outside of the 40-acre subdivision described in the permit, waiver or certificate. Drilling must not be suspended without completing the replacement well or plugging the original well unless approved by the Division.

4. In basins which have not been designated by the State Engineer, a waiver is required for any water well:

- (a) That does not comply with the requirements for construction prescribed in this chapter;
- (b) The water appropriated from which will be used in constructing a highway or exploring for oil, gas, minerals or geothermal resources; or
- (c) That may be used as a monitoring well that is not required by a governmental agency.

[St. Engineer, Drilling Wells Reg. Part 11, eff. 5-19-81]—(NAC A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.315 Wells for domestic use. (NRS 534.020, 534.110, 534.140, 534.180)

1. Except as otherwise provided in subsection 10, permits to appropriate groundwater are not required for the drilling of wells for domestic use.

2. A well driller shall take into account the normal annual fluctuations in the demand for water of an area and, if the well is in a developed area, some annual drop in static water level.

3. Water may not be diverted from more than one well for domestic use in one single-family residence.

4. A well drilled for domestic use only must have a casing size not larger than 8.625 inches in diameter.

5. If a well drilled for domestic use cannot be reconditioned, a replacement well may be drilled if the original well is plugged as required by NAC 534.420 before the equipment used for well drilling is moved from the drilling site.

6. Except as otherwise provided in subsection 7, a well may be drilled for domestic use if not more than 1,800 gallons of water per day are diverted from the well for use by a single-family household, including a residence with a lawn, garden and domestic animals.

7. If water service is available from an entity, including, without limitation, a public utility, a water district or a municipality presently engaged in furnishing water to the inhabitants of the area, a well for domestic use may not be drilled, deepened, reconditioned or replaced unless a waiver from the provisions of this section is first obtained from the Division.

8. If the State Engineer has pursuant to subsection 2 of NRS 534.180 designated a groundwater basin or portion thereof as a basin in which the registration of a well drilled for the development and use of underground water for domestic purposes is required, a well drilled for domestic use in that basin or portion thereof must be plugged as required by NAC 534.420 if:

- (a) The conditions set forth in subsection 3 of NRS 534.180 are satisfied; and
- (b) The State Engineer sends a notice to the owner of the well by certified mail, return receipt requested, indicating that the well must be plugged.

→ The well must be plugged within 1 year after the owner of the well receives the notice from the State Engineer.

9. If the State Engineer has not pursuant to subsection 2 of NRS 534.180 designated a groundwater basin or portion thereof as a basin in which the registration of a well drilled for the development and use of underground water for domestic purposes is required, a well drilled for domestic use in that basin or portion thereof must be plugged as required by NAC 534.420 if:

- (a) The well must be plugged pursuant to subsection 3 of NAC 534.427; and
- (b) The State Engineer sends a notice to the owner of the well by certified mail, return receipt requested, indicating that the well must be plugged.

→ The well must be plugged within 1 year after the owner of the well receives the notice from the State Engineer.

10. A permit must be obtained from the Division if:

- (a) More than 1,800 gallons of water per day are diverted from a water well; or
- (b) Water is used for purposes other than domestic use.

[St. Engineer, Drilling Wells Reg. § 10.04 + Part 12, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006)

NAC 534.320 Notice of intent to drill: Submission; contents; correction; forms. (NRS 534.020, 534.110, 534.140)

1. A well driller shall notify the Division before drilling, reconditioning or plugging a well by submitting a notice of intent to drill. The notice must be submitted for work on an exploratory, water or monitoring well. A well driller shall notify the Division before drilling a geothermal well if a permit to appropriate water is required pursuant to NRS 534.050.

2. The notice of intent to drill submitted pursuant to subsection 1 must give the name of the person for whom the work is being performed, the location of the well by public land survey, the lot number, block number and county assessor's parcel number, the purpose of the well, the date on which the work is to be commenced, the type of work to be done and the diameter of casing to be installed. The notice must include:

- (a) The signature of the contractor or the well driller responsible for the work;
- (b) The license number of the well driller responsible for the work; and
- (c) If applicable, the governmental agency identification number mandating the installation of the well, such as the number of a water right permit, waiver, case file or facility identification.

3. The notice of intent to drill submitted pursuant to subsection 1 must be received by the Division at least 3 working days before the well rig is to be set up and the drilling commenced. If a permit or waiver is required for the drilling operation, the number of the permit or waiver issued by the Division must be indicated on the notice of intent to drill in addition to the information required by subsection 2.

4. In addition to the requirements of subsections 2 and 3, the notice of intent to drill must include global positioning system coordinates which:

- (a) Are either identified by latitude and longitude using decimal degrees or are identified using coordinates of the Universal Transverse Mercator system; and
- (b) Specify for each coordinate whether the North American Datum of 1927, North American Datum of 1983 or the World Geodetic System 1984 was used.

5. If a well driller omits any of the information required by this section from the notice of intent to drill submitted to the Division pursuant to subsection 1, the Division may return the notice of intent to drill to the well driller for correction. Well drilling must not begin until after the Division approves the corrected notice of intent to drill.

6. A well driller may submit the notice of intent to drill required pursuant to subsection 1 to the Division in an electronic format if the Division approves this manner of submission for the well driller before the well driller submits the notice of intent to drill.

7. The forms evidencing notice of intent to drill will be furnished by the Division to the well driller on request and will be stamped and self-addressed.

8. If a well is to be drilled in a township that is located north of the Mount Diablo baseline, the notice of intent to drill must be submitted to the office of the Division located in Carson City. If a well is to be drilled in a township which is located south of the Mount Diablo baseline, the notice of intent to drill must be submitted to the office of the Division located in Las Vegas.

[St. Engineer, Drilling Wells Reg. Part 4, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.325 Notice of intent to drill: Lapse; new notice. (NRS 534.020, 534.110, 534.140)

1. If the well described on a notice of intent to drill is not drilled within 60 days after the Division receives and approves the notice, the notice lapses and a new notice must be submitted before the well is drilled. The new notice must include the number of the lapsed notice.

2. The well driller may set up the drill rig and commence drilling immediately after the Division receives and approves the new notice.

3. The well driller shall indicate on the record of work for the well the number of the notice of intent to drill that the well driller last submitted for that well.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006)

NAC 534.330 Responsibilities of licensed well driller at drilling site. (NRS 534.020, 534.110, 534.140) A well driller licensed by the State Engineer:

1. Must be present at the well-drilling site when the drill rig is in operation and when any activity involving the construction or plugging of the well is conducted. If the licensed well driller leaves the drilling site, the drilling operation must be shut down until that licensed well driller or another well driller licensed pursuant to this chapter returns to the site.

2. Shall ensure that the drilling of the well complies with:

(a) The provisions of this chapter;

(b) The terms and conditions of any permit, waiver or order issued by the State Engineer; and

(c) The requirements of all other federal, state and local agencies which have jurisdiction over the land on which the well is to be drilled.

3. Shall carry the well driller's license card when he or she is present at the drilling site and produce the card when requested to do so by a representative of the Division.

[St. Engineer, Drilling Wells Reg. § 2.02, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006)

NAC 534.340 Log and record of work: Form; contents. (NRS 534.020, 534.110, 534.140, 534.170)

1. A log and record of work must be submitted within 30 days after the completion of a well by the well driller pursuant to NRS 534.170 and must be typewritten or legibly handwritten in black ink.

2. In addition to the information required pursuant to NRS 534.170, the following information must be contained in the log and record of work:

(a) The complete name and address of the person for whom the work is being performed.

(b) The location of the well, including:

(1) A description of its location by public land survey and county assessor's parcel number.

(2) Global positioning system coordinates which:

(I) Are either identified by latitude and longitude using decimal degrees or are identified using coordinates of the Universal Transverse Mercator system; and

(II) Specify for each coordinate whether the North American Datum of 1927, North American Datum of 1983 or the World Geodetic System 1984 was used.

(3) In a log and record of work for a well drilled for domestic use, the address of the house to be served by the well, the lot and block description and the name of the subdivision.

(4) If applicable, the waiver number or permit number.

(c) Any pumping test or development data.

(d) An accurate identification of the water-bearing formations.

(e) If the static water level is measured from the top of the casing, the elevation of the top of the casing above the land surface.

(f) Any applicable water rights permit or waiver number.

3. An accurate description of the perforations in the casing must be set forth in the section of the log and record of work that contains a record of the well casing.

4. If the well driller does not have a thermometer, the temperature of the water may be described in the log and record of work as cold, warm or hot.

5. The flow from a well which flows or is pumped may be determined for the purpose of the log and record of work by measuring the length of time it takes to fill a container of known capacity if the flow is not too large to be measured in that manner.

6. As used in this section, "pumping test" means a test of a well conducted by pumping a specified amount or continuous flow of water from a well to determine the characteristics of the well or an aquifer.

[St. Engineer, Drilling Wells Reg. Part 7, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.345 Log and record of work: Completion; execution; submission; correction. (NRS 534.020, 534.110, 534.140, 534.170)

1. All work performed by the well driller during the drilling operation must be accurately described in the log and record of work submitted by the well driller pursuant to NRS 534.170 and NAC 534.340.

2. The completed log and record of work must be signed by:

(a) The licensed well driller who is present at the well-drilling site as required pursuant to NAC 534.330; or

(b) The drilling contractor responsible for the work pursuant to NAC 534.296.

3. A well driller may submit the log and record of work required to be submitted to the State Engineer pursuant to NRS 534.170 and NAC 534.340 in an electronic format if the Division approves this manner of submission for the well driller before the well driller submits the log and record of work.

4. If any of the information required to be included by regulation or statute is omitted from the log and record of work, the Division will return the log and record of work to the well driller for correction. Any corrections to the log and record of work must be made and submitted to the State Engineer within 30 days after the date on which the well driller receives the log and record of work from the Division. If corrections are made to the log and record of work and submitted to the State Engineer:

(a) Thirty-one days or more after the date on which the well driller receives the log and record of work but less than 90 days after that date, the log and record of work shall be deemed to be submitted late and the Division shall assess demerit points against the license of the well driller pursuant to NAC 534.500; or

(b) Ninety days or more after the date on which the well driller receives the log and record of work, the log and record of work will be accepted by the State Engineer but the late submittal of the log and record of work shall be deemed to be a failure to file the log and record of work and the Division shall assess demerit points against the license of the well driller pursuant to NAC 534.500.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006)

NAC 534.350 Identification of well rig. (NRS 534.020, 534.110, 534.140) The name and address of the contractor drilling the well must be conspicuously displayed in legible letters at least 3 inches high on the drill rig operated or owned by that contractor. The identification must be displayed on the rig before the rig is positioned at the drill site.

[St. Engineer, Drilling Wells Reg. Part 9, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.355 Reporting of improper construction or plugging of well. (NRS 534.020, 534.110, 534.140) A licensed well driller who becomes aware of specific information relating to improper construction or improper plugging of a well shall report that information to the Division as soon as practicable.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006)

DRILLING, CONSTRUCTION AND PLUGGING OF WELLS AND BOREHOLES

NAC 534.358 Construction of well: Compliance with chapter 445A of NAC in certain circumstances. (NRS 534.020, 534.110) If a well is regulated by the Bureau of Safe Drinking Water of the Division of Environmental Protection of the State Department of Conservation and Natural Resources, the well must be constructed in accordance with chapter 445A of NAC.
(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.360 Construction of well: Casing. (NRS 534.020, 534.060, 534.110, 534.140)

1. Except as otherwise provided in subsection 2, all wells must be cased to the bottom of the well bore and constructed to prevent contamination or waste of the groundwater.

2. If no additional water is developed in the bottom portion of a well, neat cement, cement grout or concrete grout must be placed by tremie pipe in an upward direction from the bottom of the well to the bottom of the casing. Unused pilot holes below the depth of the cased constructed well must have a minimum plug of 5 feet of neat cement or cement grout to isolate the pilot hole from the cased constructed well and may be plugged with bentonite chips below the cement plug.

3. The casing must:

(a) Except as otherwise provided in this paragraph and NAC 534.362, be of new steel or clean and sanitary used steel. Materials other than steel may be used if the design of the well or the subsurface conditions prevent the use of steel casing and a professional engineer who holds a certificate of registration issued pursuant to chapter 625 of NRS has approved the casing materials.

(b) Be free of pits and breaks.

4. The thickness of the wall of the casing must:

(a) For depths of 300 feet or less, conform to the following minimum specifications, allowing for mill tolerance:

(1) If the conductor casing is 50 feet or less in depth, the thickness of the wall must be:

(I) At least 0.141 or 9/64 of an inch if the wall is made of a material other than galvanized steel pipe that has been corrugated; or

(II) At least 0.109 or 7/64 of an inch if the wall is made of galvanized steel pipe that has been corrugated.

(2) If the depth of the conductor casing exceeds 50 feet, and for all production or intermediate casing, the wall must be sufficiently thick to conform to the casing sizes listed in sub-subparagraphs (I) to (IV), inclusive:

(I) If the casing is smaller than 10 inches nominal size, the wall must be at least 0.188 or 3/16 of an inch thick.

(II) For 10-, 12-, 14- and 16-inch nominal size casing, the wall must be at least 0.250 or 1/4 of an inch thick.

(III) For 18- and 20-inch nominal size casing, the wall must be at least 0.312 or 5/16 of an inch thick.

(IV) For casing larger than 20 inches nominal size, the wall must be at least 0.375 or 3/8 of an inch thick.

(b) For depths of more than 300 feet, be increased in accordance with the *American Water Works Association Standard A100*.

5. The top of the casing on all wells must be at least 18 inches above the surface of the ground or the finished grade.

6. All production casing joints must be threaded and coupled or welded and be watertight. If the casing joints are welded, each joint must be welded completely. Spot welds of casing joints are prohibited.

7. The well driller shall ensure that the integrity of any casing to be used in the construction of the well has not been impaired by storage, shipping, handling, perforating or exposure to ultraviolet light.

[St. Engineer, Drilling Wells Reg. § 3.01, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.362 Construction of well: Thermoplastic casing. (NRS 534.020, 534.060, 534.110, 534.140)

1. New thermoplastic water well casing made of polyvinyl chloride may be used as casing in a well if the casing:

(a) Is clearly marked as well casing; and

(b) Complies with the standards adopted by ASTM International designated as ASTM F480-12, or the current F480 designation at the time of installation, which are hereby incorporated by reference. A copy of the standards may be obtained by mail from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959, by telephone at (610) 832-9585 or at the Internet address <http://www.astm.org>, at a cost of \$57.

2. If polyvinyl chloride well casing is used:

(a) The differential pressures that may occur during the installation of casing, the development of the well and the operation of the well must be considered by the well driller and the person responsible for designing the well.

(b) The wall thickness must:

(1) For nominal diameters that are 6 inches or less, conform to a rating of schedule 40 or heavier. For example, a nominal pipe that is 6 inches in diameter and has a rating of schedule 40 must have a wall thickness of at least 0.280 inch. The ASTM standard dimension ratio that would exceed this standard is an ASTM standard dimension ratio of 21 or heavier. An ASTM standard dimension ratio of 26 would not satisfy the requirements of this subparagraph for nominal diameters that are 6 inches or less.

(2) For nominal diameters that are more than 6 inches, conform to the ASTM standard dimension ratio of 21 or heavier. The standard dimension ratio is equal to the outside diameter divided by the wall thickness. For example, a nominal pipe that is 8 inches in diameter and has an ASTM standard dimension ratio of 21 must have a wall thickness of at least 0.410 inch. A rating of schedule 40 would not satisfy the requirements of this subparagraph for a nominal pipe that is 8 inches in diameter and has a wall thickness of 0.322 inch.

(c) The joint connections must be:

(1) Flush-threaded;

(2) Threaded and coupled; or

(3) Joined with nonmetallic couplings that are sealed with elastomeric sealing gaskets and which consist of flexible thermoplastic splines that are inserted into precisely machined grooves in the casing.

→ The joint connections must not be glued or joined by restraining devices that clamp into or otherwise damage the surface of the casing. If the joint connections are flush-threaded or threaded and coupled, the well driller shall ensure that the connections are not overtightened.

3. If polyvinyl chloride well casing is used in a water well or monitoring well, the well driller shall set a protective steel casing which complies with the provisions of NAC 534.360 and extends not less than 5 feet inside the sanitary seal and not less than 18 inches above the finished grade. The top of the protective casing must be fitted with a locking cap or a standard sanitary well cap.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.370 Construction of well: Prevention of contamination; securing against unauthorized entry; suspension of drilling. (NRS 534.020, 534.110, 534.140)

1. The driller shall take the precautions necessary to:
 - (a) Seal off any known zones of poor quality water which may affect the zones of good quality water in the well.
 - (b) Prevent contamination or waste of groundwater.
2. Any additive used in drilling a well must be safe and must not contaminate or induce contamination of the groundwater.
3. If it becomes necessary for the driller to discontinue the drilling operation before completion of the well, the well must be covered securely to prevent a contaminant from entering the casing or borehole and rendered secure against entry by children, domestic animals and wildlife.
4. After drilling is completed, all openings must be closed off to prevent contamination of the well. A sanitary well cap or welded plate must be welded to the well.
5. If drilling is suspended for any reason, the Division must be notified within 24 hours after drilling is suspended or before the drilling equipment is moved from the drilling site, whichever occurs first. The suspension of drilling without completing or plugging the well must be approved by the Division.

[St. Engineer, Drilling Wells Reg. §§ 3.14 & 3.15, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.375 Construction of well: Measures required if contaminant or contaminated water is encountered. (NRS 534.020, 534.110, 534.140) If a contaminant or contaminated water is encountered during the construction of a well, the strata which contain the contaminant or contaminated water must be cased or sealed in such a manner that the contaminant or contaminated water does not commingle with or impair other strata or the water contained in other strata. The well driller shall, by grouting or by using special seals or packers, prevent the movement of the contaminant or contaminated water in the well bore.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.378 Construction of well: Measures required if artesian condition is encountered. (NRS 534.020, 534.060, 534.110, 534.140)

1. If an artesian condition is encountered in a well, the well driller shall, in addition to complying with the provisions of subsections 2 and 3 of NRS 534.060, ensure that unperforated casing extends through the confining strata above the artesian zone. The annular space between the casing and the walls of the well bore must be sealed by placing neat cement, cement grout or bentonite chips by tremie pipe in an upward direction from the top of the artesian zone to the level necessary to prevent the leakage of artesian water above or below the surface.

2. Any flow of artesian water must be stopped completely in the manner set forth in subsection 3 of NRS 534.060 before the drill rig is removed from the drill site.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.380 Construction of well: Seals. (NRS 534.020, 534.060, 534.110, 534.140)

1. Except as otherwise provided in subsection 2, before the drill rig is removed from the drill site of a well, the annular space between the well bore and the casing must be sealed to a minimum depth of 50 feet below ground level by:

(a) Placing neat cement, cement grout, concrete grout or bentonite chips from the sealing depth to 20 feet from the surface; and

(b) Placing neat cement, cement grout or concrete grout from 20 feet below the surface to the surface.

→ If sodium bentonite chips are placed in the annular space, the chips must be placed in such a manner that a bridge does not occur. If bentonite chips are poured in standing water, the bentonite chips must be screened to eliminate the fines.

2. Before the drill rig is removed from the drill site of a well, the annular space between the well bore and the casing must be sealed to a depth of greater than 50 feet below ground level if sealing to such a depth is required by subsection 1 of NAC 534.370, NAC 534.375, subsection 1 of NAC 534.378 or paragraph (b) of subsection 1 of NAC 534.390. If the well is regulated by the Bureau of Safe Drinking Water of the Division of Environmental Protection of the State Department of Conservation and Natural Resources, the annular space must be sealed in accordance with NAC 445A.66905.

3. The casing must be centered as nearly as practicable in the well bore to allow the sanitary seal to surround the casing.

4. If a temporary conductor casing is used, it must be withdrawn during the placement of the grout.

5. If a pitless adapter is used in domestic or small commercial wells:

(a) The sanitary seal must begin not more than 5 feet below ground level;

(b) The sanitary seal must extend at least 50 feet below the bottom elevation of the pitless adapter; and

(c) The portion of the casing above the sanitary seal must be backfilled to ground level with uncontaminated soil which is compacted.

6. A pipe used to feed gravel through the cement seal or to provide access to the interior of the well must be fitted with a watertight cap.

7. A licensed well driller must place the seal or directly supervise the placement of the seal.

8. The seal must be placed:

(a) In the annular space within 3 days after the casing is set and before the drill rig is removed from the drill site.

(b) In one continuous mass from the minimum depth of 50 feet below ground level to the surface.

(c) By tremie pipe in an upward direction to displace the fluid to the surface of the ground, if any fluid is standing in the well bore above the sealing depth.

9. The diameter of the well bore must be at least 4 inches larger than the largest diameter of the outside of the outermost casing to be used, including any joints or collars. If a fill pipe for gravel is installed, the diameter of the well bore must be 4 inches larger than the largest diameter of the casing plus the largest diameter of the fill pipe for gravel. A fill pipe for gravel or any other pipe to provide access to the interior of the well must be completely surrounded by the seal. A conductor casing may be used to convey the gravel pack. If a conductor casing is used:

(a) The diameter of the well bore must be at least 4 inches larger than the largest diameter of the conductor casing; and

(b) The annular space between the conductor casing and the well bore must be sealed.

10. A watertight seal must be installed at the surface level between the conductor casing and the production casing to prevent any contaminants from entering the gravel pack conductor area. A welded plate or a seal consisting of neat cement, cement grout or concrete grout from a minimum depth of 10 feet below ground level to the surface must be used. If a welded plate is used, the entire length of the plate must be welded to the conductor casing and production casing.

[St. Engineer, Drilling Wells Reg. §§ 3.02-3.13 & 3.16, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.390 Construction of well: Location near river, lake, perennial stream, unlined reservoir or unlined canal; compliance with permit or waiver. (NRS 534.020, 534.060, 534.110, 534.140)

1. If a well, other than a monitoring well, is drilled within 1/4 mile of a river, lake, perennial stream, unlined reservoir or unlined canal:

(a) Perforations in the production casing are prohibited from ground level to a depth of 100 feet.

(b) The well must be sealed to a depth of 100 feet.

(c) A permanent conductor casing may be used to convey the gravel pack to the 100-foot level.

2. If a well is being drilled pursuant to a permit or waiver, the well driller is responsible for satisfying the terms and conditions of the permit or waiver concerning the construction of the well.

[St. Engineer, Drilling Wells Reg. Part 5, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.420 Plugging of well: General requirements. (NRS 534.020, 534.110)

1. Except as otherwise provided in NAC 534.422, wells must be plugged in the manner prescribed in this section by a well driller licensed by the State Engineer.

2. A well driller shall:

(a) Ensure that a notice of his or her intent to plug a water well is received by the Division not less than 3 working days before the drill rig is moved to the location where the well will be plugged; and

(b) Notify the Division not less than 24 hours before beginning to plug the well.

3. Before the well driller begins to plug the well, he or she shall, if possible, obtain the log and record of work for that well from the Division or the owner of the well.

4. On abandonment or order of the State Engineer, a water well must be plugged by:

(a) Removing the pump or debris from the well bore with appropriate equipment; and

(b) If an annular cement seal was not installed, breaking the casing free with appropriate equipment so that the casing may be pulled from the well.

5. If the casing in the well:

(a) Breaks free, the well driller shall plug the borehole in the manner prescribed in NAC 534.4371 as the casing is pulled from the well. The well must be plugged from the total depth of the well to the surface of the well, in stages if necessary, to displace in an upward direction any fluid or debris in the well.

(b) Does not break free, the well driller shall perforate that portion of the casing which extends from the bottom of the well to not less than 50 feet above the top of the uppermost saturated groundwater stratum or to the surface of the well. That portion of the casing must be perforated not less than four times per each 2 linear feet to allow the plugging fluid to penetrate the annular space and the geologic formation. The perforations made in each 2 linear feet of the casing must be made along a horizontal plane of the well bore. A well with a diameter of more than 8 inches in nominal size must be perforated a sufficient number of additional times per linear foot to ensure that the plugging fluid penetrates into the annular space and formation. Except as otherwise provided in subsections 8 and 9, the well driller shall then plug the well from the total depth of the well to 50 feet above the uppermost saturated groundwater stratum or to within 20 feet of the surface of the well with neat cement, cement grout, bentonite chips or bentonite grout containing not less than 20 percent sodium bentonite by weight of water. If the neat cement, cement grout, bentonite chips or bentonite grout containing not less than 20 percent sodium bentonite by weight of water is not brought to within 50 feet above the uppermost saturated groundwater stratum or to within 20 feet of the surface of the well, the well driller shall:

(1) Measure the depth of the top of the lower plug with the appropriate equipment after he or she has allowed sufficient time for the lower plug to set up;

(2) Continue to install neat cement, cement grout, bentonite chips or bentonite grout containing not less than 20 percent sodium bentonite by weight of water until the top of the lower plug remains at least 50 feet above the top of the uppermost saturated groundwater stratum; and

(3) Install uncontaminated fill material or one of the plugging materials described in subsection 3 of NAC 534.4371 from the top of the lower plug to within 20 feet of the surface of the well.

6. The well driller shall place a surface plug in the well consisting of neat cement, cement grout or concrete grout from a depth of at least 20 feet to the surface of the well.

7. If the well casing does not break free and there is no evidence of a sanitary seal around the well casing, the well driller shall, in addition to the requirements of subsection 5, perforate the upper 50 feet of casing before setting the surface plug. The casing must have at least four

perforations per each 2 linear feet of casing, and the surface plug must consist of neat cement and must extend from 50 feet below ground level to the surface of the well.

8. If there is evidence that water-bearing formations of different water quality or hydraulic head were encountered during the original well construction and the well casing does not break free, and if bentonite chips are used as the plugging material, the well driller must, in addition to the requirements of this section, perforate the casing, as needed, and place neat cement across each confining formation so that the plugging fluid penetrates the annular space and the geologic formation in that interval.

9. If the well casing does not break free and there is no well log available, the well driller must plug the well in accordance with paragraph (b) of subsection 5, except that bentonite chips must not be used as the plugging material, so that the plugging fluid penetrates the annular space and the geologic formation in the perforated intervals.

10. A well driller shall submit a log and record of work to the Division within 30 days after a water well has been plugged. The log and record of work must contain the location of the well by public land survey and county assessor's parcel number, the name of the owner of the well, the condition of the well, the static water level before plugging and a detailed description of the method of plugging, including, but not limited to:

- (a) The depth of the well;
- (b) The depth to which the materials used to plug the well were placed;
- (c) The type, size and location of the perforations which were made in the casing;
- (d) The debris encountered in, milled out of or retrieved from the well; and
- (e) The materials used to plug the well.

11. If there is any standing liquid in the interval of the well bore that is being plugged, all grout materials used pursuant to this section must be placed by tremie pipe in an upward direction.

12. If sodium bentonite chips or pellets are placed in the well, the chips or pellets must be placed in such a manner that a bridge does not occur. If bentonite chips are poured in standing water, the bentonite chips must be screened to eliminate the fines.

[St. Engineer, Drilling Wells Reg. Part 14, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.422 Plugging of well: Use of exceptional method. (NRS 534.020, 534.110)

1. A well driller who wishes to plug a well in a manner that does not comply with the provisions set forth in NAC 534.420 must request approval from the Division.

2. If the Division authorizes the well driller to plug the well in a manner other than the manner set forth in NAC 534.420, the well driller shall comply with the instructions he or she receives from the Division, if any, relating to the manner in which the well must be plugged.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.424 Plugging of well: Responsibility for cost. (NRS 534.020, 534.110)

1. If a well is located on private land, the owner of the land at the time the well is plugged is responsible for the cost of plugging the well.

2. If a well is located on public land, the person who last drilled or used the well is responsible for the cost of plugging the well. If the person who last drilled or used the well does not plug the well after receiving notice from the Division by certified mail, return receipt requested, that the well must be plugged, the Division shall notify the person who owns the land on which the well is located that it is his or her responsibility to plug the well.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006)

NAC 534.426 Plugging of well: Artesian conditions. (NRS 534.020, 534.110) If an artesian condition is encountered in any well such that water is flowing at the surface, the artesian water strata must be contained pursuant to NRS 534.060 and NAC 534.378 and the well must be sealed by placing concrete grout, cement grout or neat cement by tremie pipe in an

upward direction from the bottom of the well to the surface. The owner and the lessor of the land on which the well is located, the operator of the exploration project and the drilling contractor for the project shall take the necessary steps to prevent the loss of water above or below the surface and to prevent the vertical movement of water in the well bore.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.427 Mandatory plugging of certain wells. (NRS 534.020, 534.110)

1. If any type of permit, waiver or application to appropriate water from a water well is cancelled, abrogated, forfeited, withdrawn or denied, the well must be plugged in the manner prescribed in NAC 534.420.

2. Except as otherwise provided in subsection 9 of NAC 534.315, a well, other than a water well drilled for a domestic purpose, must be plugged in the manner prescribed in NAC 534.420 if:

- (a) The Division has not issued a permit or waiver for the well; or
- (b) The well is not located in a designated basin and there is no reasonable expectation of obtaining a valid permit, waiver or certificate of water right from the Division.

3. A well, including a water well drilled for a domestic purpose, must also be plugged in the manner prescribed in NAC 534.420 if the State Engineer sends a notice to the owner of the well pursuant to subsection 9 of NAC 534.315 and either:

- (a) The State Engineer has determined that the well is in any manner defective; or
 - (b) The Division makes a finding that:
 - (1) The well tends to impair existing rights or the safety and welfare of the residents of this State;
 - (2) The mechanical integrity of the construction of the well has failed or is unknown;
 - (3) The well was not drilled in compliance with the provisions of this chapter;
 - (4) The well was not drilled in compliance with the provisions of chapter 534 of NRS;
 - (5) The well tends to cause contamination of the groundwater aquifer;
 - (6) There is no evidence of impending use of the well for any legal purpose or that no legal use of the well is allowed; or
 - (7) The well tends to cause water to be wasted above or below the surface of the well.
- (Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006)

NAC 534.430 Means to measure level of water in well required. (NRS 534.020, 534.110, 534.140)

1. Except as otherwise provided in subsection 3, each well that is drilled, deepened or reconditioned must have:

- (a) An access port near the top of the casing that is not less than 1 inch in diameter;
- (b) A commercially manufactured sanitary well cap that may be easily removed to determine the level of water in the well; or
- (c) A reliable electronic means to measure the level of water in the well.

2. An access port must have a watertight, screw-type cap seal to prevent contamination and must be kept closed.

3. On wells that are 8 inches in diameter or smaller, the access may be a 1/2-inch hole at the top of the casing or in the casing cover with a removable plug or bolt.

4. As used in this section, "access port" means an opening in the top of a well casing in the form of a tapped hole and plug or a capped pipe welded on the casing to permit entry of a device to measure the water level of the well.

[St. Engineer, Drilling Wells Reg. Part 6, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R039-12, 6-29-2012)

NAC 534.432 Mandatory plugging of well as result of noncompliance with requirements for well drilling. (NRS 534.020, 534.110, 534.140, 534.160) If a well was:

1. Constructed by a person who, at the time the well was constructed, was not the holder of a well-drilling license issued pursuant to NRS 534.140; or

2. Not constructed or completed in compliance with the provisions of this chapter as determined by the State Engineer,
→ the well must be plugged in the manner prescribed in NAC 534.420 at the expense of the person who constructed the well.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.4351 Monitoring wells: Restrictions on construction; submission of plat map, map of vicinity, and log and record of work. (NRS 534.020, 534.110, 534.140, 534.170)

1. A monitoring well must be:

(a) Drilled only by a well driller who is licensed by the State Engineer;

(b) Constructed in accordance with the provisions of this chapter, except for any provision that is waived by the State Engineer; and

(c) Drilled only for the purpose of complying with federal, state or local environmental requirements or any other federal, state or local requirements.

2. A plat map showing the actual location of the monitoring well, a map of the vicinity and a log and record of work which contains the information described in NRS 534.170 and NAC 534.340 must be submitted within 30 days after completion of the well by the person who is responsible for the well. The plat map must indicate the distance of the well from permanent reference points, including streets, roads or section lines. The map must be drawn on paper measuring 8 1/2 inches by 11 inches or 11 inches by 17 inches.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006)

NAC 534.4353 Monitoring wells: Responsibilities of owner; permits; affidavit of responsibility for plugging. (NRS 534.020, 534.060, 534.110, 534.140)

1. The owner of a monitoring well shall ensure that the well:

(a) Is constructed in accordance with the provisions of this chapter or a waiver and does not allow contamination of groundwater during its use; and

(b) Is plugged upon abandonment in accordance with NAC 534.4365 when the well is no longer monitored or when otherwise required.

2. A permit to appropriate water or a waiver from the State Engineer is not required to drill and collect data from a monitoring well unless the well is not constructed in the manner prescribed in this chapter or the well is not required by a governmental agency.

3. The well driller shall, when submitting the notice of intent to drill pursuant to NAC 534.320, submit to the Division a notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(a) For private lands, the person or authorized representative of the company that is the owner of record of the property; or

(b) For public lands, the person or authorized representative of the company that has the appropriate authorization to use the public lands. A copy of the authorization must be included with the affidavit.

4. The owner of a monitoring well shall maintain a record of the current status of the monitoring well and shall notify the Division in writing as soon as practicable after determining that the well will no longer be used.

5. If a monitoring well or any other well is to be used to remove a contaminant from groundwater, a permit to appropriate water for environmental purposes must be obtained from the State Engineer pursuant to the provisions of NRS 533.437 to 533.4377, inclusive.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4355 Monitoring wells: Casing; prevention of contamination. (NRS 534.020, 534.060, 534.110, 534.140)

1. A well driller shall install casing in a monitoring well. If polyvinyl chloride casing is used, it must comply with the standards adopted by reference pursuant to subsection 1 of NAC 534.362.

2. The well driller shall take the precautions necessary to prevent contamination of groundwater. The equipment used to construct a monitoring well must be decontaminated before the construction of the well is commenced.

3. The diameter of the casing must not exceed 4 inches in nominal size.

4. The connections of the casing must comply with the provisions of NAC 534.360 or 534.362. The connections must be made watertight by wrapping them with teflon tape, placing a ring or gasket between them or by any other method which will not introduce contaminants into the well.

5. Both ends of the casing must be capped.

6. The perforations must be of a width and length which will allow the strata to be observed while not permitting the infiltration of the gravel pack through the casing or allowing the contaminants or water from separate strata to commingle.

7. To ensure adequate space for the gravel pack and seals, the well bore of a monitoring well must, for the entire length of the casing placed in the well, be not less than 4 inches larger than the diameter of the casing.

8. Not more than one perforated or screened section of casing may be placed in the well bore of a monitoring well unless the vertical intervals of the well bore in between the screened sections are sealed with neat cement, cement grout, cement-bentonite grout or bentonite chips.

9. Not more than one casing may be placed in the well bore of a monitoring well unless the vertical intervals of the well bore in between the screened sections of the casings are sealed with neat cement, cement grout, cement-bentonite grout or bentonite chips.

10. Monitoring wells must be drilled an adequate distance from each other to ensure that there is no commingling of the contaminants or groundwater encountered in the wells.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4357 Monitoring wells: Placement of gravel and seals in annular space. (NRS 534.020, 534.110, 534.140)

1. If the water or vapors which are being monitored in a monitoring well are not encountered within 5 feet below the surface of the ground, the well driller shall place in the annular space of the well:

(a) From the bottom of the well to a maximum of 2 feet above the uppermost perforation in the casing, a gravel pack which consists of quartz sand, silica or other materials which will not contaminate the groundwater or the geologic formation;

(b) From the gravel pack placed pursuant to paragraph (a) to a minimum of 2 feet above that gravel pack or to within 20 feet below the surface of the ground, a seal consisting of bentonite chips; and

(c) From the seal placed pursuant to paragraph (b) to the surface, a seal, with a minimum thickness of 20 feet below the surface, consisting of cement grout, neat cement or concrete.

2. If the water or vapors which are being monitored in a monitoring well are encountered within 5 feet below the surface of the ground, the well driller shall comply with the requirements of subsection 1, except that:

(a) The gravel pack required pursuant to paragraph (a) of subsection 1 must extend only 6 inches above the uppermost perforation in the casing; and

(b) The surface seal required pursuant to paragraph (c) of subsection 1 must be placed from 1 foot below the surface to the surface.

3. The well driller shall ensure that a bridge does not occur in the annular space during the placement of the gravel pack and seals required pursuant to this section.

4. If more than 20 continuous feet of grout are placed in the annular space of the well or if there is standing liquid in the well bore above the sealing depth, the grout must be placed by tremie pipe in an upward direction.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4359 Monitoring wells: Measures required if contaminant or contaminated water is encountered. (NRS 534.020, 534.110, 534.140) If a contaminant or contaminated water is encountered during the construction of a monitoring well, the strata which contain the contaminant or contaminated water must be cased and sealed in such a manner that the contaminant or contaminated water does not commingle with or impair other strata or the water contained in other strata. The well driller shall seal the strata by grouting or by using special seals or packers, if necessary, to prevent the movement of the contaminants or contaminated water in the well bore.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.4361 Monitoring wells: Surface pad; prevention of unauthorized use; additional protective measures. (NRS 534.020, 534.110, 534.140)

1. Unless the area surrounding a monitoring well is paved with concrete or asphalt, a surface pad must be installed around the casing at the surface.

2. A threaded or flanged cap or compression seal must be installed to prevent unauthorized use of the well. If the top of the well is flush with the surface and the well protector required pursuant to subsection 3 is of a type which may not be locked, the cap or seal must be of a type which may be locked.

3. The well must also be protected and secured by:

(a) If it is not necessary for the well to be flush with the surface:

(1) Setting a steel surface casing which complies with the requirements set forth in NAC 534.360 and extends not less than 5 feet below the surface pad and not less than 1 foot above the surface pad;

(2) Fitting the top of the steel casing with a locking cap; and

(3) Clearly marking the well as a monitoring well; or

(b) If it is necessary for the well to be flush with the surface:

(1) Placing a well protector capable of supporting vehicular travel which extends one-half inch above the surface pad or concrete or asphalt paving; and

(2) Clearly marking the well as a monitoring well.

4. As used in this section, "surface pad" means a formation of concrete or cement grout with a radius from the center of the well of not less than 18 inches and a thickness of not less than 3 1/2 inches which is set around a monitoring well at a slope to ensure that water flows away from the well.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4363 Monitoring wells: Artesian conditions. (NRS 534.020, 534.060, 534.110, 534.140) If an artesian condition is encountered in a monitoring well, the well driller shall ensure that the well is sealed in the manner prescribed in NAC 534.378.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.4365 Monitoring wells: Plugging. (NRS 534.020, 534.110)

1. Except as otherwise provided in this section, a monitoring well must be plugged within 30 days after monitoring is no longer required.

2. If the casing cannot be removed, a monitoring well must be plugged by placing neat cement by tremie pipe in an upward direction from the bottom of the well to the surface of the well. Alternatively, the appropriate volume of bentonite chips may be used from the bottom of the monitoring well to within 20 feet below the surface of the well. The well driller shall place a surface plug consisting of neat cement, cement grout or concrete grout in the well from a depth of at least 20 feet to the surface of the well.

3. If the casing in the monitoring well can be removed from the well bore, the bottom end of the casing in the monitoring well must be removed or perforated and neat cement or bentonite chips must be placed by tremie pipe in an upward direction from the bottom of the well to within 20 feet of the surface of the well as the casing is removed from the well bore. The well driller shall place a surface plug consisting of neat cement, cement grout or concrete grout in the well from a depth of at least 20 feet to the surface of the well.

4. If the integrity of the borehole remains intact as the casing is removed from the well bore, the well may be plugged as a borehole as provided in NAC 534.4371.

5. If there is evidence that water-draining formations, or water-bearing formations of different water quality or hydraulic head were encountered during the original monitoring well construction and the casing does not break free, and if bentonite chips are used as the plugging material, the driller must, in addition to the requirements of this section, perforate the casing as needed and place neat cement across each confining formation so that the plugging fluid penetrates the annular space and the geologic formation in that interval.

6. If the water-bearing formations are unknown and any casing does not break free, bentonite chips must not be used as the plugging material. The driller must perforate the casing as needed and plug the monitor well with neat cement so that the plugging fluid penetrates the annular space and the geologic formation.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.4367 Drive point wells. (NRS 534.020, 534.110, 534.140)

1. A well driller may construct a drive point well without placing in the annular space of the well the gravel pack and seals required pursuant to NAC 534.4357.

2. The diameter of the casing used in a drive point well which is not constructed pursuant to the provisions of NAC 534.4357 must not be larger than 2 inches in nominal size.

3. A drive point well which is not constructed pursuant to the provisions of NAC 534.4357 must be plugged within 60 days after the well is constructed. Upon abandonment, the casing must be removed from the well bore and the well bore must be plugged in the manner provided in NAC 534.4371.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4369 Boreholes: Generally. (NRS 534.020, 534.110)

1. A borehole may be drilled or plugged by a person who is not a licensed well driller.

2. A person who constructs or plugs a borehole is not required to file with the Division a notice of intent to drill or plug the borehole.

3. A borehole may be drilled without obtaining from the Division a permit to appropriate water or a waiver of the requirement to obtain such a permit.

4. A person who drills or plugs a borehole, the operator of the exploration project or the owner of the land where the borehole is located must maintain a record of the drilling operation which includes:

- (a) The dates on which the borehole is constructed and plugged;
- (b) The location of the borehole as shown by public land survey;
- (c) The depth and diameter of the borehole;
- (d) The depth at which groundwater is encountered in the borehole; and
- (e) The methods and materials used to plug the borehole.

5. The State Engineer may, at any time, require the person drilling or plugging the borehole, the operator of the exploration project or the owner of the land on which the borehole is located to submit to the State Engineer a copy of the record required pursuant to subsection 4 and any other information relating to the construction, operation or plugging of the borehole that the State Engineer determines is necessary.

6. The owner and the lessor of the land on which a borehole is located, the operator of the exploration project and the drilling or plugging contractor for the project shall ensure that the groundwater is uncontaminated during the drilling, operation or plugging of the borehole.

7. A borehole must not be used to divert water for any purpose.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006)

NAC 534.4371 Boreholes: Plugging requirements. (NRS 534.020, 534.110)

1. A borehole must be plugged within 60 days after it is drilled.

2. Except as otherwise provided in subsections 4, 7 and 8 and NAC 534.438, a borehole must be plugged:

(a) In the manner prescribed for plugging a well in NAC 534.420; or

(b) If the uppermost saturated groundwater stratum is above the bottom of the borehole:

(1) By placing concrete grout, cement grout, neat cement or bentonite grout by tremie pipe in an upward direction from the bottom of the borehole to within 20 feet of the surface and by placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface;

(2) By placing bentonite chips specifically designed to be used to plug boreholes from the bottom of the borehole to within 20 feet of the surface and by placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface; or

(3) By placing any of the plugging materials described in this subsection from the total depth of the borehole to 50 feet above the uppermost saturated groundwater stratum and by placing concrete grout, cement grout, or neat cement from 20 feet below the surface to the surface.

3. If the concrete grout, cement grout, neat cement, bentonite grout or bentonite chips are not brought to within 20 feet of the surface pursuant to paragraph (b) of subsection 2, the person responsible for plugging the borehole shall:

(a) Measure the depth of the top of the lower plug with the appropriate equipment after he or she has allowed sufficient time for the lower plug to set up;

(b) Continue to install concrete grout, cement grout, neat cement, bentonite grout or bentonite chips until the top of the lower plug remains at least 50 feet above the top of the uppermost saturated groundwater stratum;

(c) Install uncontaminated fill material or one of the plugging materials described in this subsection from the top of the lower plug to within 20 feet of the surface; and

(d) Place concrete grout, cement grout or neat cement from 20 feet below the surface to the surface.

4. If the elevation of the bottom of the borehole is higher than the preexisting natural elevation of the uppermost saturated groundwater stratum, the borehole must be plugged by:

(a) Backfilling the borehole from the bottom of the borehole to within 20 feet of the surface with uncontaminated soil; and

(b) Placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface.

5. If bentonite chips or uncontaminated soil is placed in the borehole, they must be placed in such a manner that a bridge does not occur. If poured in standing water, bentonite chips must be screened to eliminate the fines. Bentonite chips may be placed by tremie pipe.

6. If casing is set in a borehole, the borehole must be completed as a well pursuant to the provisions of this chapter. The borehole must be plugged pursuant to NAC 534.420, or the casing must be removed from the borehole when it is plugged. The upper portion of the borehole may be permanently cased if the annular space between the casing and the walls of the borehole is completely sealed from the bottom of the casing to the surface pursuant to NAC 534.380.

7. If there is evidence that water-draining formations (lost circulation), or water-bearing formations of different water quality or hydraulic head were encountered during the original borehole construction and if bentonite chips or bentonite grout is used as the plugging material, the driller must, in addition to the requirements of this section, place neat cement across the water-confining formations so that the plugging fluid penetrates the geologic formation to

prevent the vertical movement of water. Any drilling casing or pipe that does not break free, and occludes the placement of neat cement across a confining formation, must be perforated so that the plugging fluid penetrates the annular space and the geologic formation in that interval.

8. If the water-bearing formations are unknown and any drilling casing or pipe does not break free, the driller must plug the borehole in accordance with paragraph (b) of subsection 5 of NAC 534.420, except that bentonite chips must not be used as the plugging material, so that the plugging fluid penetrates the annular space and the geologic formation in the perforated intervals.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.4373 Boreholes: Responsibility for plugging. (NRS 534.020, 534.110) The owner and lessor of the land on which a borehole is located, the operator of the exploration project and the plugging contractor for the project are jointly and severally responsible for plugging the borehole pursuant to this chapter.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.4375 Boreholes, blast holes and seismic shot holes: Artesian conditions. (NRS 534.020, 534.060, 534.110) If an artesian condition is encountered in any borehole, blast hole or seismic shot hole, the artesian water strata must be contained pursuant to NRS 534.060 and NAC 534.378, and the borehole, blast hole or seismic shot hole must be sealed by placing concrete grout, cement grout, bentonite chips or neat cement by tremie pipe in an upward direction from the bottom of the borehole to the surface. The owner and lessor of the land on which a borehole is located, the operator of the exploration project and the drilling contractor for the project shall take the necessary steps to prevent the loss of water above or below the surface and to prevent the vertical movement of water in the well bore.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4376 Instrumentation boreholes. (NRS 534.020, 534.110)

1. An instrumentation borehole may be drilled by an unlicensed well driller.
2. The installation of monitoring instruments and simultaneous plugging must be:
 - (a) Completed by a well driller who is licensed in this State; or
 - (b) Supervised and documented by the responsible project geologist, hydrologist or engineer.
3. An instrumentation borehole must be permanently plugged at the time of completion pursuant to NAC 534.4371.
4. Documentation of each instrumentation borehole must be completed and maintained pursuant to NAC 534.4369.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.43763 Electrical cathodic protection conductor deemed specific type of instrumentation borehole. (NRS 534.020, 534.110) For the purposes of this chapter, an electrical cathodic protection conductor is a part of a system to prevent corrosion or to provide electrical grounding and is deemed to be a specific type of instrumentation borehole.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.43767 Core hole deemed specific type of borehole. (NRS 534.020, 534.110) For the purposes of this chapter, a core hole is deemed to be a specific type of borehole.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.4377 Treatment of certain holes as boreholes. (NRS 534.020, 534.110)

1. If the construction of a seismic shot hole or a hole used for the installation of electrical conductors as part of a system to prevent corrosion or provide electrical grounding may cause waste or contamination of the groundwater, the hole shall be deemed a borehole for the purposes of NAC 534.4369 and 534.4371.

2. Any borehole which is drilled for oil, gas or geothermal resource observation, temperature gradient survey, production or injection purposes shall be deemed a borehole for the purposes of NAC 534.4369 and 534.4371, unless another governmental agency has requirements that are the same as or more strict than the requirements of this chapter.

3. Any borehole which is drilled for oil, gas or geothermal resource observation, temperature gradient survey, production or injection purposes, and which has casing or tubing installed for more than 60 days, shall be deemed a well or a monitoring well for the purposes of NAC 534.4351 to 534.4365, inclusive, and subsection 6 of NAC 534.4371, unless another governmental agency has requirements that are the same as or more strict than the requirements of this chapter.

4. Any borehole drilled for geothermal heat loop installation shall be deemed a borehole for the purposes of NAC 534.4369 and 534.4371, unless another governmental agency has requirements that are the same as or more strict than the requirements of this chapter.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.438 Prerequisites to using bentonite grout to seal, grout or plug borehole. (NRS 534.020, 534.110) Before using bentonite grout to seal, grout or plug a borehole, the responsible project geologist, hydrologist or engineer using the bentonite grout must:

1. Consider the geology encountered in the borehole and any requirements set forth in this chapter or chapter 534 of NRS in his or her selection of the bentonite grout;

2. Mix the bentonite grout and place the bentonite grout in accordance with specifications recommended by the manufacturer; and

3. Place additional cement plugs as necessary, across low permeability geologic formations encountered in the borehole, to ensure that no water can move vertically in the borehole.

(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006; A by R039-12, 6-29-2012)

WAIVERS

NAC 534.440 Waiver to drill exploratory well to determine quality or quantity of water in designated basin. (NRS 534.020, 534.050, 534.110)

1. The request for a waiver to drill an exploratory well to determine the quality or quantity of water pursuant to NRS 534.050 in a designated basin must be submitted in writing and contain the following information:

(a) The location by public land survey, county assessor's parcel number, map of the vicinity and plat map of the exploratory well anticipated to be drilled;

(b) The name, address and telephone number of the person who:

(1) Is collecting data from the exploratory well; and

(2) Will be available to answer questions concerning the well;

(c) The reason for requesting a waiver;

(d) The proposed diameter and depth of the exploratory well;

(e) The estimated starting and completion dates of the exploratory well, not to exceed 90 days after authority is given to drill;

(f) The name, address and telephone number of the person who will be responsible for plugging the well, and the name, address and telephone number of the owner of the land where the well will be located if the owner is not the person responsible for plugging the well;

(g) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands; and

(h) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property and for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands.

2. Each waiver for an exploratory well will bear a unique number preceded by the letter "W." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. An application to appropriate underground water or an application to change an existing underground water right must be on file with the Division or accompany each request for a waiver.

4. A copy of the waiver must be in the possession of the well driller at the drill site.

5. The exploratory well must be:

(a) Plugged by the well driller in the manner prescribed in NAC 534.420 within 3 days after the completion of the aquifer tests for which the well was drilled; or

(b) Completed as a well pursuant to the provisions of this chapter before the drill rig is removed from the drill site.

6. The water from the well may not be used for any purpose other than the purposes set forth in the waiver without the written approval of the State Engineer.

7. A waiver to drill an exploratory well will not be granted pursuant to this section for a well in an area in which the Division determines there is sufficient information existing concerning the aquifer for the area.

[St. Engineer, Drilling Wells Reg. Part 16, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.441 Waiver to drill monitoring well. (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to drill a monitoring well which is not required for the purpose of complying with a federal, state or local law must be submitted to the State Engineer in writing and contain:

(a) The location of the proposed monitoring well by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The name, address and telephone number of the owner of the land on which the monitoring well will be located;

(c) A statement of the reason for requesting the waiver;

(d) A proposed construction sketch of the monitoring well;

(e) The name of the monitoring well or, if a waiver is requested for multiple monitoring wells, a list of all monitoring wells for which a waiver is requested on the "Additional Well Locations" form;

(f) If requested or previously required, a current, updated copy of the MO-Summary Sheet;

(g) The name, address and telephone number of the person who:

(1) Will collect data from the monitoring well; and

(2) Will be available to answer questions concerning the monitoring well;

(h) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands; and

(i) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property or for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands.

2. A waiver to drill a monitoring well will bear a unique number preceded by the letters "MO." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.
 4. The monitoring well must be completed as a well pursuant to the provisions of this chapter or the waiver before the drill rig is removed from the drill site.
 5. Water from the monitoring well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.
- (Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.442 Waiver to use water to explore for minerals. (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to allow a temporary use of water from an existing well to explore for minerals or to drill a well and to use the water from the well to explore for minerals must be submitted to the State Engineer in writing and contain:

- (a) The amount of water that will be used each day;
- (b) A brief description of the manner in which the water will be put to a beneficial use;
- (c) The location of the water well by public land survey, county assessor's parcel number, map of the vicinity and plat map;
- (d) The name, address and telephone number of the person who will be responsible for plugging the well, and the name, address and telephone number of the owner of the land where the well will be located if the owner is not the person responsible for plugging the well;
- (e) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands;

(f) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property or for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands;

(g) The name, address and telephone number of a person who will be available to answer questions concerning the well; and

(h) The date the project is scheduled to be completed.

2. A waiver granted for the temporary use of water from a well for the exploration of minerals will bear a unique number preceded by the letters "MM." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.

4. The well must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.

5. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.444 Waiver to use water to explore for oil, gas or geothermal resources. (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to allow the temporary use of water from an existing well to explore for oil, gas or geothermal resources, or to drill a well and use the water from the well to explore for oil, gas or geothermal resources, must be submitted to the State Engineer in writing and contain:

(a) The location of the proposed water well and the oil, gas or geothermal well by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The oil, gas or geothermal state or federal permit and lease number, name of the well and American Petroleum Institute number, if assigned;

- (c) The amount of water that will be consumed from the well each day;
 - (d) The date the project is scheduled to be completed;
 - (e) The name, address and telephone number of the person responsible for plugging the well, and the name, address and telephone number of the owner of the land if the owner is not the person who is responsible for plugging the well;
 - (f) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:
 - (1) For the private lands, the person or an authorized employee of the company that is the owner of record of the property; or
 - (2) For public lands, the person or authorized employee of the company that has the appropriate authorization to use the public lands;
 - (g) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property and for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands; and
 - (h) The name, address and telephone number of a person who will be available to answer questions concerning the well.
2. A waiver that allows the temporary use of water from a water well to explore for oil, gas or geothermal resources will bear a unique number preceded by the letters "OG." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.
3. A copy of the waiver must be in the possession of the well driller at the drill site.
4. The well must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.
5. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.
- (Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.446 Waiver to use water for construction of highway. (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to allow the temporary use of water from an existing well for the construction of a highway, or to drill a well and use the water from the well for the construction of a highway, must be submitted to the State Engineer in writing and contain:
- (a) The location of the proposed water well by public land survey, county assessor's parcel number, map of the vicinity and plat map;
 - (b) The project and contract number, if applicable;
 - (c) The total amount of water that will be consumed each day;
 - (d) The name, address and telephone number of the contractor responsible for plugging the well, and the name, address and telephone number of the owner of the land where the well will be located if the owner is not the person responsible for plugging the well in accordance with NAC 534.420;
 - (e) A notarized affidavit signed by the contractor responsible for plugging the well which states that he or she will be responsible for plugging the well;
 - (f) The name, address and telephone number of a person who will be available to answer questions concerning the project; and
 - (g) The date the project is scheduled to be completed.
2. A waiver that allows the temporary use of water from a well for the construction of a highway will bear a unique number preceded by the letter "C." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.
3. A copy of the waiver must be in the possession of the well driller at the drill site.
4. The well must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.

5. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.4465 Waiver to use water to drill for water well. (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to allow the temporary use of water from an existing well to drill for a water well, or to drill a temporary well and use the water from the temporary well to drill for a water well, must be submitted to the State Engineer in writing and contain:

(a) The location of the existing well or the proposed temporary well, as applicable, and the water well to be drilled by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The total amount of water that will be consumed from the existing well or temporary well each day;

(c) The date the project is scheduled to be completed;

(d) The name, address and telephone number of the person responsible for plugging the existing well or temporary well, as applicable, and the name, address and telephone number of the owner of the land if the owner of the land is not the person who is responsible for plugging the existing well or temporary well;

(e) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the existing well or temporary well, as applicable, upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands;

(f) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property or for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands; and

(g) The name, address and telephone number of a person who will be available to answer questions concerning the existing well or temporary well, as applicable.

2. A waiver that allows the temporary use of water from an existing well or to drill a temporary well will bear a unique number preceded by the letters "WE." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.

4. The existing well or temporary well, as applicable, must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.

5. Water from the existing well or temporary well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.448 Waiver to drill well in shallow groundwater system to alleviate certain potential hazards. (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to drill a well in a shallow groundwater system for removing water for the purpose of alleviating potential hazards to persons and property resulting from the rise of groundwater caused by secondary recharge must be submitted to the State Engineer in writing and contain:

(a) The location of the proposed well by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The project and contract number, if applicable;

(c) The total amount of water that will be consumed each day;

(d) The name, address and telephone number of the person responsible for plugging the well, and the name, address and telephone number of the owner of the land where the well will be located if the owner is not the person responsible for plugging the well;

(e) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands;

(f) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property and for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands;

(g) The name, address and telephone number of a person who will be available to answer questions concerning the project; and

(h) The date the project is scheduled to be completed.

2. A waiver to drill a well in a shallow groundwater system for removing water for the purpose of alleviating potential hazards to persons and property resulting from the rise of groundwater caused by secondary recharge will bear a unique number preceded by the letters "DW." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.

4. The well must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.

5. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

6. Written authorization from the appropriate agency for the discharge of dewatering water must be submitted with the waiver request.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.449 Waiver of requirement to plug well. (NRS 534.020, 534.060, 534.110)

1. The owner of a well, other than a well drilled for domestic use, who wishes to obtain a waiver pursuant to subsection 7 or 8 of NRS 534.060 from the requirement that a well be plugged must submit a written request for the waiver to the State Engineer. The State Engineer will grant such a waiver which is valid for 1 year after the date on which the waiver is requested unless the State Engineer finds that the well is dry or abandoned. On or before the date on which the waiver is no longer valid, the owner of the well may submit a request to extend the waiver or to make the waiver permanent, if appropriate, as determined by the State Engineer.

2. A request for a waiver, the extension of a waiver or to make a waiver permanent made pursuant to subsection 1 must:

(a) Be made on a form provided by the State Engineer;

(b) Include sufficient information and evidence for the State Engineer to determine that the well is not in any manner defective, including, without limitation, that the conditions set forth in subsection 2 of NAC 534.427 do not apply to the well; and

(c) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands.

(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006; A by R039-12, 6-29-2012)

NAC 534.450 Waiver of requirement of this chapter. (NRS 534.020, 534.110)

1. Except as otherwise provided in subsection 2, the State Engineer may, for good cause shown, waive a requirement of the provisions of this chapter.

2. The State Engineer will not waive the requirements set forth in subsection 4 of NAC 534.360.

3. A request for a waiver of a requirement of this chapter must be made in writing and include:

(a) A detailed statement of the reason for requesting the waiver and the section of the regulations to be waived;

(b) The location or proposed location of the well by public land survey;

(c) The name and address of the owner of the well;

(d) The street address of the location of the well or, if there is no street address, a description of the location of the proposed well, including, but not limited to, common landmarks and cross-streets near the location of the well;

(e) The county assessor's parcel number for the location of the proposed well;

(f) A description of the proposed design and a sectional drawing of the proposed well that includes the depths to the aquifers, the locations of the screens and seals and the materials that will be used;

(g) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands;

(h) Any available data to categorize the hydraulic heads, water quality and permeability characteristics of the aquifer;

(i) A monitoring plan; and

(j) Any other information required pursuant to the provisions of this chapter.

4. After reviewing the request, the State Engineer will issue a written notice of his or her decision to the owner of the well.

5. Each waiver will bear a unique number preceded by the letter "R." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

6. The well driller shall ensure that the well complies with the provisions of the waiver and have a copy of the waiver in the well driller's possession when he or she drills the well.

7. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

[St. Engineer, Drilling Wells Reg. Part 15, eff. 5-19-81)—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

ENFORCEMENT

NAC 534.500 Assessment of demerit points against license of well driller; suspension and reinstatement of license; removal of demerit points. (NRS 534.020, 534.110)

1. The Division shall assess demerit points against the license of a licensed well driller who is found by the State Engineer to have violated any provision of this chapter or chapter 534 of NRS pursuant to the following table:

Classification of Violations

Maximum Demerits

Notice of Intent/Approval

Failing to submit a notice of intent to drill to the Division as required by
NAC 534.320..... 25

Failing to notify the Division or obtain approval from the Division as
required by NAC 534.370 if drilling is suspended or drilling
equipment is moved from the drilling site before a well is completed
or plugged..... 75

Log or Record of Work of Well Driller

Failing to furnish a copy of a log or record of work to the State
Engineer as required by NRS 534.170, intentionally making a
material misstatement of fact in a log or record of work submitted to
the State Engineer pursuant to NRS 534.170 or intentionally making
a material misstatement of fact in an amendment to a log or record of
work submitted to the State Engineer pursuant to NRS 534.170 75

Submitting a log or record of work to the State Engineer pursuant to
NRS 534.170 more than 30 days after a well is completed..... 10

Submitting a log or record of work to the Division pursuant to NAC
534.420 more than 30 days after a water well has been plugged 10

Licenses

Intentionally making a material misstatement of fact in an application
for a well-drilling license..... 100

A well driller failing to have the well driller's license card in his or her
possession at a drilling site or failing to produce the license card
when requested to do so by a representative of the Division as
required by NAC 534.330 10

Failing to have a licensed well driller at a well-drilling site when a drill
rig is in operation or when any activity involving the construction or
plugging of the well is conducted as required by NAC 534.330.
(Demerit points will be assessed against the license of the principal
well driller for the well-drilling company and against the license of
the well driller listed on the notice of intent.) 50

Well construction and plugging

Failing to comply with any provision of this chapter which establishes
standards for the construction or plugging of a well, including,
without limitation, improperly placing the annular seal, constructing
a well with substandard well casing, using improper products or
procedures during the construction or plugging of a well and failing
to protect against contamination..... 75

Failing to make a well accessible to measurements of the water level of
the well as required by NAC 534.430 30

Failing to prevent, control or stop the flow of water from an artesian
well as required by NRS 534.060 and NAC 534.378..... 30

Approvals

Drilling a replacement well more than 300 feet from the location of the
existing point of diversion described in the permit or moving the
replacement well outside of the 40-acre subdivision described in
the permit, waiver or certificate of water right in violation of
NAC 534.300..... 25

Classification of Violations

Maximum Demerits

Failing to comply with any term or condition of a permit, waiver or order issued by the State Engineer concerning the drilling of a well as required by NAC 534.330, including, without limitation, the depth of the annular seal, the location of perforations and the minimum or maximum depth of the well	50
Miscellaneous	
Any other violation of any of the provisions of this chapter or chapter 534 of NRS	To be determined by the Division based on the severity of the violation, but not to exceed 10

2. The Division shall assess demerit points against the license of a well driller only:

(a) After the State Engineer makes a finding that the well driller has violated a provision of this chapter or chapter 534 of NRS as provided in subsection 1;

(b) After the Division gives written notice of an alleged violation to the well driller by registered or certified mail to the last known address of the well driller which specifies the provision of this chapter or chapter 534 of NRS that the well driller is alleged to have violated;

(c) If, within 30 days after the date on which the well driller receives a notice of an alleged violation sent pursuant to paragraph (b), the well driller has failed to respond to the notice of an alleged violation or provides a response to the notice of an alleged violation that is unsatisfactory, as determined by the Division; and

(d) After the conditions set forth in paragraphs (a), (b) and (c) are satisfied, regardless of when the violation occurred.

3. If a licensed well driller accumulates 100 or more demerit points, the State Engineer may, after giving notice and holding a hearing pursuant to NRS 534.160 to determine that the violations which resulted in the demerit points occurred, suspend the license of the well driller indefinitely. If the State Engineer suspends the license of a well driller, the Division shall notify the well driller that his or her license is suspended and the well driller is prohibited from engaging in any activity for which a well-drilling license issued pursuant to NRS 534.140 is required until the license of the well driller is reinstated.

4. A well driller whose license has been suspended pursuant to subsection 3 may have the license reinstated if the well driller:

(a) Satisfies the requirements set forth in NAC 534.293;

(b) Appears before the State Engineer at a hearing and the State Engineer finds that the well driller is competent to engage in the practice of well drilling in the State of Nevada; and

(c) Resolves any outstanding complaints related to his or her license as a well driller to the satisfaction of the Division.

5. The Division shall reduce the number of demerit points accumulated against the license of a well driller whose license has been suspended pursuant to subsection 3 and reinstated pursuant to subsection 4 to zero.

6. Demerit points assessed against the license of a well driller may be removed by the Division as follows:

(a) Five demerit points may be removed for each credit unit of continuing education approved by the Division and successfully completed by the well driller, as determined by the Division up to a maximum of 50 points per year. The credit units of continuing education

that must be completed for the purposes of the removal of demerit points pursuant to this paragraph are in addition to those required by NAC 534.2923.

(b) One-half of the demerit points assessed against the license of a well driller may be removed if the well driller is determined by the State Engineer to not have violated a provision of this chapter or chapter 534 of NRS for the entire year before his or her license is required to be renewed pursuant to NRS 534.140.

(c) Twenty demerit points may be removed if the well driller takes and passes the written examination section of the examination for a license as a well driller. The Division may remove demerit points pursuant to this paragraph once every other year.

(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006)